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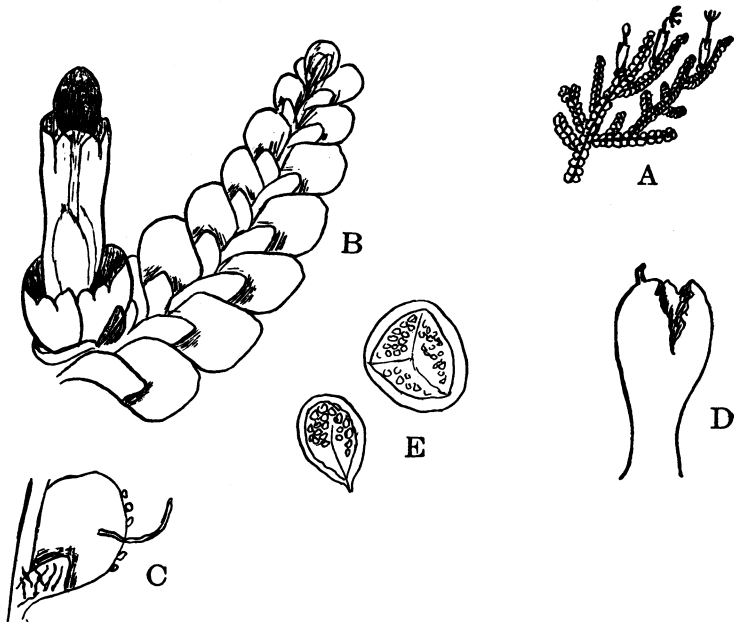
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RADULA.

WM. C. BARBOUR.



RADULA COMPLANATA. Dumort.

A. Plant natural size. B. Branch with perianth and capsule. C. Leaf with gemmæ. Also shows root-hairs from the lower lobe. D. Calyptra. E. Spores.

RADULA Dumort. *Comm. Bot.* 112. 1822. (Martinellius S. F. Gray. *Stephanina* O. Kuntze.)

The members of the genus *Radula* somewhat resemble the *Porellas* in outward appearance, but are apt to lie more closely upon the substratum of bark, or sometimes rock.

The plants are rather large, green, and form spreading mats. The stems usually branch in a loosely pinnate manner. The leaves are alternate and incubous in arrangement, the upper margin of each leaf lying over or upon the lower margin of the leaf next above it. As in *Frullania* and in *Porella* the leaves are two-lobed, with the lower lobe smaller than the upper, lying beneath it and along the stem at the lower side of the leaf. It may be readily distinguished from the other genera with lower lobes smaller than the upper, by the fact that the root-hairs are borne upon the lower lobes of the leaves, while in the others (*Frullania*, *Jubula*, *Porella*, and *Lejeunea*) they are borne upon the stem and the underleaves. The lobule is seldom much, in-

flated and then only at the fold at the lower edge of the leaf. The free margin is pressed close to the main lobe of the leaf. The genus has no underleaves.

Most of the species are dioicous. In these the antheridia are in andrœcia having the form of catkins and are found at the end of the stem or the principal branches. The archegonia occur in similar positions. The calyptra is somewhat pear-shaped, whitish, and nearly opaque. In most species the perianth is strongly compressed from above, as though it had been "flattened" by a heavy weight. This "dorso-ventrally" flattened perianth occurs in but one other genus of Northeastern America, *Scapania*. This is easily distinguished from *Radula* by its bilobed leaves, which have the lower lobe larger than the upper. The lips of the perianth are truncate and nearly or quite entire. The spores are rather large and have a granular surface.

RADULA COMPLANATA (L.) Dumort. Comm. Bot. 112. 1822. (*Jungermannia complanata* L. Sp. Pl. 1133. 1753.)

This is the common species of the Eastern United States and is found also on the Pacific slope, but not so abundantly.

It occurs as yellowish green, depressed mats at the base, or on the lower part of the trunks of trees. Where the plants have not yet formed these mats, they cling closely to the substratum. This species is also found on rocks in the Eastern region of the United States. The leaves are closely imbricate, and sometimes bear gemmæ upon the margins. The upper (dorsal) lobe is nearly round, and the lower (ventral) lobe is rather quadrate, and about a quarter the size of the dorsal. The walls of the leaf cells are thickened at the angles.

The species is paroicous, the perianth long-obconic, strongly compressed, two lipped, entire or nearly so. The capsule is ellipsoidal or obovoid, exserted from the perianth only a short distance.

Sayre, Pa.

(To be continued.)

NEW OR UNRECORDED MOSSES OF NORTH AMERICA.

BY J. CARDOT AND I. THERIOT.

Condensed from Bot. Gaz. 30, July, 1900. Translated by Miss Warner.

PTEROGONIUM GRACILE Sw. var. *CALIFORNICUM* Ren. & Card.

Differs from the typical European form in the longer and more acuminate leaves and in the smaller alar cells.

California: "Ad rupes Californiæ, perfrequens; Bolander" (Sulliv. & Lesq. Musci Bor. Amer. Exsicc., ed. 2, no. 349); Sansalito (Marshall A. Howe, 1892;) Coast Range Mts., San Mateo Co., on trees (M. A. Howe 1895; Ren. & Card., Musci Amer. Sept. exsicc. no. 316). All the Californian specimens of *P. gracile* that we have examined belong to this variety.

PYLAISSIA POLYANTHA Sch. var. *DREFANOIDES* Ren. & Card.

A peculiar form, similar in habit and size to *Hypnum pallescens*. The second leaves usually faintly toothed to the base of the acumen, the al